DETAILED ACTION

CONTINUED EXAMINATION UNDER 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/08/2009 has been entered.

RESPONSE TO ARGUMENTS

2. Applicant's arguments filed 09/08/2009 have been fully considered but they are not persuasive. Currently, claims 1-19 are pending for examination.

3. In response to applicant's arguments with regard to the independent claims 1-2 and 11 rejected under 35 U.S.C. 103(a) that the combination of the references does not teach/suggest the claimed invention, because Andreas teaches the slaves/clients are daisy-chained, therefore, not all clients are addressed by the server/master at the same time in a parallel manner as only the first client gets serial data directly from the master/serve, and the slave do change a value transmitted from the server and do transmit it to other clients; applicant's arguments have fully been considered, but are not found to be persuasive.

Please note that the features upon which applicant relies (i.e., all clients are addressed by the server/master at the same time in a parallel manner) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The examiner respectfully disagrees applicant's above arguments, because applicant's arguments corresponds one of the system architecture (i.e. daisy-chained) disclosed by Andreas, while the examiner is relying on Andreas' other system architecture (i.e. normal). And, by combining the references with Andreas' normal system architecture, the resulting combination of the references does teach that the slave/client do not change a value transmitted from the server and do not transmit it to other slaves/clients.

I. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over "HART, Field Communication Protocol, Application Guide" in view of Andreas et al. (US Patent 6,928,501) and Brooke (US Patent 5,909,591).

HART, Field Communication Protocol, Application Guide teaches a method of configuring a HART multidrop system, the system including at least one master device and a plurality of slave devices coupled to a master device (Fig. 8, on p. 22 and Fig. 9, on p. 23), the method comprising the steps of:

connecting the slave devices to the master device via a two-wire line (Fig. 8, on p. 22 and Fig. 9, on p. 23);

switching on a power source of the at least one master device for the slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

the HART command being preprogrammed to cause the slave devices automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-23), as the standard HART command transferred in the multidrop system would initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: transmitting the HART command ... , obtain an identical address not equal to zero; determining a respective unique address for each of the plurality of slave devices; and transmitting a further HART command "Write polling

address" ... to change the identical address for the respective slave devices to the respective unique address for each respective slave device.

Andreas a system and a method with a plurality of slave devices each have a unique identifier comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, the HART command would be broadcasted from the master device to the plurality of slave devices over the two-wire line;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 4, l. 50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero; and

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50).

Brooke teaches an automatic system and method comprising

determining a respective unique address for each of the plurality of slave devices (col. 2, ll. 19-53), by combining unique address assignment by the controller with Andreas's unique address utilization, the resulting combination further teaches the above claimed feature; and

transmitting a further HART command "Write polling address" from the master device to each slave device of the plurality of slave devices over the two-wire line with

the respective unique address determined for the respective slave device, wherein the respective slave device is addressed by the respective unique identifier, the further HART command is preprogrammed to change the identical address for the respective slave devices to the respective unique address for each respective slave device (col. 2, ll. 19-53), by combining unique address assignment by the controller with HART, Field Communication Protocol, Application Guide's utilization of the "Write polling address" over the two-wire line and Andreas's unique and identical addresses, the resulting combination of the references further teaches the controller assigning the unique address, changed from identical address, by utilizing the further HART command, for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas, col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 1.

5. Claims 2-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over "HART, Field Communication Protocol, Application Guide" in view of "About HART: Part 1," Andreas et al. (US Patent 6,928,501) and Brooke (US Patent 5,909,591).

6. As per claim 2, HART, Field Communication Protocol, Application Guide teaches a method of configuring an existing HART multidrop system, the system including (i) a master device, (ii) a plurality of slave devices connected to the at least one master device, and (iii) at least one further slave device (e.g. replacement device) (Fig. 8, on p. 22; Fig. 9, on p. 23 and Improvement Plant Operations on p. 12), the method comprising the steps of:

connecting the at least one further slave device to the master device via a two wire line (Fig. 8, on p. 22; Fig. 9, on p. 23 and Improvement Plant Operations on p. 12), as the replacement device is connected,

switching on a power source for the slave devices (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

the HART command being preprogrammed to cause the slave devices automatically switch to a multidrop mode (HART Multidrop Networks on pp. 22-23), as the standard HART command transferred in the multidrop system would initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: switching off a power source ... ; transmitting the HART command ... , obtain an identical address not equal to zero; determining a respective unique address for each of the plurality of slave devices; and transmitting a further HART command "Write polling address" ... to change the identical address for the respective slave devices to the respective unique address for each respective slave device.

About HART: Part 1 teaches a system and a method of adding slave device (e.g. Field Instrument) comprising resetting of the system as the devices are resetted (page 10), wherein the resetting of the master device would include the switching off of the power source following by the switching on of the power source.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include About HART: Part 1's resetting into HART, Field Communication Protocol, Application Guide's multidrop system for the benefit of properly operating the system in accordance to the HART communication protocol to enable proper communication and operation of the devices within the HART system as to obtain the invention as specified in claim 2.

HART, Field Communication Protocol, Application Guide and About HART: Part 1 do not expressly teach the method comprising: transmitting the HART command ... , obtain an identical address not equal to zero; determining a respective unique address for each of the plurality of slave devices; and transmitting a further HART command

"Write polling address" ... to change the identical address for the respective slave devices to the respective unique address for each respective slave device.

Andreas a system and a method with a plurality of slave devices each have a unique identifier comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, the HART command would be broadcast from the master device to the plurality of slave devices over the two-wire line;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 4, l. 50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero; and

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50) ; and

Brooke teaches an automatic system and method comprising

determining a respective unique address for each of the plurality of slave devices (col. 2, ll. 19-53), by combining unique address assignment by the controller with Andreas's unique address utilization, the resulting combination further teaches the above claimed feature; and

transmitting a further HART command "Write polling address" from the master device to each slave device of the plurality of slave devices over the two-wire line with

the respective unique address determined for the respective slave device, wherein the respective slave device is addressed by the respective unique identifier, the further HART command is preprogrammed to change the identical address for the respective slave devices to the respective unique address for each respective slave device (col. 2, ll. 19-53), by combining unique address assignment by the controller with HART, Field Communication Protocol, Application Guide's utilization of the "Write polling address" over the two-wire line and Andreas's unique and identical addresses, the resulting combination of the references further teaches the controller assigning the unique address, changed from identical address, by utilizing the further HART command, for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas, col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 2.

7. As per claim 11, HART, Field Communication Protocol, Application Guide teaches a HART multidrop system, comprising:

a plurality of slave devices, each of the plurality of slave devices having a respective unique identifier (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23); and

a master device having a power source for the slave devices, the slave devices being coupled to the master device via a two-wire line (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23);

a control unit switching on the power source (Fig. 8, on p. 22; Fig. 9, on p. 23 and HART Multidrop Networks on pp. 22-23), as the power source must be switch on in order for the system to operate;

a HART command "Write polling address" (Universal Commands of Table 1 on p. 7);

setting a polling address not equal to zero (HART Multidrop Networks on pp. 22-23); and

the HART command causing each of the slave devices connected to the at least one master device to be automatically switched to a multidrop mode (HART Multidrop Networks on pp. 22-23), as the standard HART command transferred in the multidrop system would initiates the operation in the multidrop mode.

HART, Field Communication Protocol, Application Guide does not expressly teach the method comprising: automatic configuration of the HART multidrop system; ... transmitting the HART command ... , receive an identical address not equal to zero; wherein a respective unique address for each of the plurality of slave devices is determined; and ... transmitting a further HART command "Write polling address" ... to change the identical address for the respective slave devices to the respective unique address for each respective slave device.

About HART: Part 1 teaches a system and a method of adding slave device (e.g. Field Instrument) comprising resetting of the system as the devices are resetted (page 10), as the HART multidrop system is configured.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include About HART: Part 1's resetting into HART, Field Communication Protocol, Application Guide's multidrop system for the benefit of properly operating the system in accordance to the HART communication protocol to enable proper communication and operation of the devices within the HART system as to obtain the invention as specified in claim 11.

HART, Field Communication Protocol, Application Guide and About HART: Part 1 do not expressly teach the method comprising: automatic configuration of the HART multidrop system; ... transmitting the HART command ... , receive an identical address not equal to zero; wherein a respective unique address for each of the plurality of slave devices is determined; and ... transmitting a further HART command "Write polling address" ... to change the identical address for the respective slave devices to the respective unique address for each respective slave device.

Andreas a system and a method with a plurality of slave devices each have a unique identifier comprising:

transmitting addressing data to each module (Fig. 1, ref. 120-150) via broadcasting from at least one controller (Fig. 1, ref. 110) (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol,

Application Guide's teaching, the HART command would be broadcast from the master device to the plurality of slave devices over the two-wire line;

obtaining an identical address (e.g. identical CID) not equal to zero (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50), in combination with the above HART, Field Communication Protocol, Application Guide's teaching, as the broadcasted polling address is not equal to zero; and

accessing the modules utilizing a unique address (e.g. unique device selection signal) for each module (col. 2, l. 63 to col. 3, l. 27 and col. 4, ll. 44-50);

Brooke teaches an automatic system and method comprising:

automatic configuration of the system (e.g. HART multidrop system) (col. 2, ll. 12-16);

wherein a respective unique address for each of the plurality of slave devices is determined (col. 2, ll. 19-53), by combining unique address assignment by the controller with Andreas's unique address utilization, the resulting combination further teaches the above claimed feature; and

wherein the master device transmits a further HART command "Write polling address" from the master device to each slave device of the plurality of slave devices over the two-wire line with the respective unique address determined for the respective slave device, wherein the respective slave device is addressed by the respective unique identifier, the further HART command is preprogrammed to change the identical address for the respective slave devices to the respective unique address for each respective slave device (col. 2, ll. 19-53), by combining unique address assignment by

the controller with HART, Field Communication Protocol, Application Guide's utilization of the "Write polling address" over the two-wire line and Andreas's unique and identical addresses, as the resulting combination of the references further teaches the controller (e.g. master device) assigning the unique address, changed from identical address, by utilizing the further HART command, for accessing.

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Andreas' broadcasting and Brooke's assigning of unique addresses into HART, Field Communication Protocol, Application Guide's multidrop network for the benefit of for properly identifying the data's intended recipient (Andreas, col. 3, ll. 25-27) and address detection and assignment without prior configuration (Brooke, col. 2, ll. 4-16) to obtain the invention as specified in claim 11.

8. As per claims 3 and 12, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 further teaches the method and the system comprising before the switching off step (before the power supply is switched on), the control unit (e.g. HART controller) check if one of a supply voltage or a supply current for the slave devices is about zero (About HART: Part 1, Fig. 1.2 on p. 3), as the HART controller could have been utilized to sense the current level for properly implementing the resetting (e.g. On-Off-On).

9. As per claims 4 and 13, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein switching on step is performed by the control unit after a predetermined time interval after the switching off step (a switch off process) to ensure that one of a voltage and a current is not applied to the slave devices before the power source for the slave devices is switched on (About HART: Part 1, page 10), it would have been necessary to switch off for predetermined time interval to ensure that all the voltage or current in the system is sufficiently discharged for implementing the reset.

10. As per claim 5, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claim 2 as discussed above, where About HART: Part 1 further teaches the method comprising wherein, in the HART command, the pulling address has a value between 1 and 15 (e.g. 4 bit address) (About HART: Part 1, Overview: Addressing on pp. 13-14).

11. As per claims 6 and 14, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 2 and 11 as discussed above, where About HART: Part 1 and Brooke further teach the method and the system comprising wherein one of the transmitting step and the changing step, the unique address between 1 and 15 (e.g. 4 bit address) is entered for

each slave device by an operator in an inquiry routine run by the control unit (About HART: Part 1, Overview: Addressing on pp. 13-14 and Brooke, col. 2, ll. 1-3).

12. As per claims 7 and 15, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 6 and 14 as discussed above, where Brooke further teaches the method and the system comprising wherein before entering of the unique address for a particular slave device, the control unit run a checking routine to determine if the particular slave device has already been configured and, if the particular slave device has been configured, the same address is again assigned to the particular slave device (Brooke, col. 2, ll. 19-53), wherein the above detection would have been implemented via the monitoring of the particular slave device for a faster configuration process.

13. As per claims 8 and 16, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 7 and 15 as discussed above, where About HART: Part 1 and Brooke further teach the method and the system comprising wherein the checking routine involves the HART command being transmitted with an identifier for the particular slave device and a previously assigned address (About HART: Part 1, Overview: Addressing on pp. 13-14 and Brooke, col. 2, ll. 19-53), as the HART command would have been transferred with the existing addressing information including the identifier and the previous assigned address.

14. As per claims 9 and 17, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 6 and 14 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein, in addition to entering the unique address for a particular slave device, an identifier corresponding to the particular slave device (e.g. serial number) is entered (About HART: Part 1, Overview: Addressing on pp. 13-14).

15. As per claims 10 and 18, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claims 9 and 17 as discussed above, where About HART: Part 1 further teaches the method and the system comprising wherein the identifier characterizing the particular device is a corresponding serial number of the particular slave device (About HART: Part 1, Overview: Addressing on pp. 13-14).

16. As per claim 19, HART, Field Communication Protocol, Application Guide, About HART: Part 1, Andreas and Brooke teach all the limitations of claim 11 as discussed above, where About HART: Part 1 further teaches the system comprising wherein, before switching on the power source, the power source is switched off (About HART: Part 1, page 10), as the resetting would include power source is switched off before switching on the power source.

II. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-19 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 29, 2009
/Chun-Kuan Lee/
Examiner, Art Unit 2181

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181